

CLAIMS PENDING AFTER AMENDMENT

- 1 48. A method of conferring resistance to pathogenic fungi on a plant
- 2 using a DNA sequence encoding a member of the sarcotoxin 1 family or the cecropin
- 3 family of antibacterial peptides from a Diptera insect, the method comprising the steps of:
- 4 transforming a plant cell by introducing the DNA sequence encoding the member of the
- 5 sarcotoxin 1 family or the cecropin family; and regenerating the transformed plant cell
- 6 into a transgenic plant expressing the member of the sarcotoxin 1 family or the cecropin
- 7 family, wherein the DNA encoding the member of the sarcotoxin 1 family or the cecropin
- 8 family from a Diptera insect is in an expression vector, wherein said expression vector
- 9 comprises:
 - 10 i) an expression cassette comprising a first plant promoter induced by
 - 11 stress; and
 - 12 ii) a second plant promoter which is constitutively expressed,
- 13 wherein the first plant promoter and the second plant promoter are positioned adjacent to
- 14 each other, and wherein the transgenic plant has enhanced resistance to pathogenic fungi
- 15 as compared to a corresponding untransformed plant.
- 1 49. The method according to claim 48, wherein the pathogenic fungi are
- 2 *Rhizoctonia solani, Pythium aphanidermatum, and Phytophthora infestans.*
- 1 50. The method according to claim 48, wherein the member of the
- 2 sarcotoxin 1 family is sarcotoxin 1a.
- 1 51. The method according to claim 48, wherein the member of the
- 2 cecropin family is cecropin A.
- 1 52. The method according to claim 48, wherein said expression vector
- 2 comprises:

- 3 i) the expression cassette comprising the DNA sequence encoding the
4 member of the sarcotoxin 1 family or the cecropin family operably linked
5 to the first plant promoter; and
6 ii) a drug resistance gene operably linked to the second plant promoter.

1 53. The method according to claim 48, wherein the DNA sequence
2 encoding the member of the sarcotoxin 1 family or the cecropin family is operably linked
3 to a plant gene via the hinge region of a tobacco chitinase gene.

1 54. The method according to claim 48, wherein the DNA sequence
2 encoding the member of the sarcotoxin 1 family or the cecropin family is operably linked
3 to a signal sequence from a plant gene.

1 55. The method according to claim 48, wherein the promoter induced by
2 stress is the promoter of the tobacco PR-1a gene.

1 56. The method according to claim 52, wherein the expression cassette
2 further comprises the terminator of the tobacco PR-1a gene operably linked downstream
3 of the DNA sequence encoding the member of the sarcotoxin 1 family or the cecropin
4 family.

1 57. The method according to claim 48, wherein the second plant promoter
2 is the cauliflower mosaic virus 35S promoter.

1 58. A plant which confers resistance to pathogenic fungi, the plant
2 comprising an expression vector, wherein the expression vector comprises:
3 i) an expression cassette comprising a DNA sequence encoding a member
4 of the sarcotoxin 1 family or the cecropin family of antibacterial peptides
5 from a Diptera insect operably linked to a promoter induced by stress; and
6 ii) a drug resistance gene operably linked to a constitutively expressed
7 promoter,
8 wherein the promoter induced by stress and the constitutively expressed promoter are

9 positioned adjacent to each other, and wherein the transgenic plant has enhanced
10 resistance to pathogenic fungi as compared to a corresponding untransformed plant.

1 59. The plant according to claim 58, wherein the pathogenic fungi are
2 *Rhizoctonia solani*, *Pythium aphanidermatum*, and *Phytophthora infestans*.

1 60. The plant according to claim 58, wherein the member of the
2 sarcotoxin 1 family is sarcotoxin 1a.

1 61. The plant according to claim 58, wherein the member of the cecropin
2 family is cecropin A.

1 62. The plant according to claim 58, wherein the DNA sequence encoding
2 the member of the sarcotoxin 1 family or the cecropin family is operably linked to a plant
3 gene via the hinge region of a tobacco chitinase gene.

1 63. The plant according to claim 58, wherein the DNA sequence encoding
2 the member of the sarcotoxin 1 family or the cecropin family is operably linked to a
3 signal sequence from a plant gene.

1 64. The plant according to claim 58, wherein the promoter induced by
2 stress is the promoter of the tobacco PR-1a gene.

1 65. The plant according to claim 58, wherein the expression cassette
2 further comprises the terminator of the tobacco PR-1a gene operably linked downstream
3 of the DNA sequence encoding the member of the sarcotoxin 1 family or the cecropin
4 family.

1 66. The plant according to claim 58, wherein the constitutively expressed
2 promoter is the cauliflower mosaic virus 35S promoter.

1 67. The plant according to claim 58, wherein the expression vector further
2 comprises a T-DNA region and a drug resistance gene.